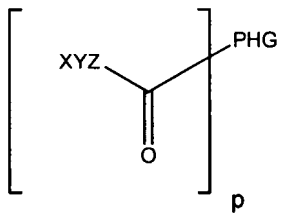
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-60 (cancelled)

61. (new) A lipid compound of formula (I):



(I)

wherein

PHG is a polar head group derived from a phospholipid, a lysophospholipid, a ceramide, a monoacylglycerol, a diacylglycerol, a triacylglycerol, or –W-Linker-HG;

p is from 1 to 3;

X is independently selected from C_6-C_{24} alkenyl containing one or more double bonds and optionally one or more triple bonds, C_6-C_{24} alkynyl containing one or more triple bonds, or C_6-C_{24} alkyl, all optionally substituted with at least one of F, hydroxy, C_1-C_4 alkoxy, C_1-C_4 alkylthio, C_2-C_5 acyloxy and C_1-C_4 alkyl;

Y is selected from at least one of S, Se, SO_2, SO, O and CH_2; and

Z is a C_1-C_{10} alkyl group

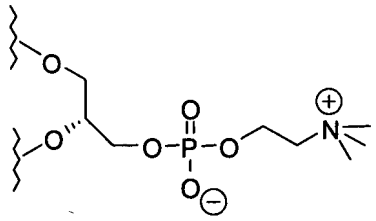
wherein each X, Y and Z is selected independently of each other when p is 2 or 3,

with the proviso that at least one Y is not CH_2.

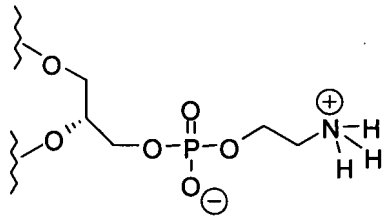
62. (new) The lipid compound according to claim 61, wherein the polar head group is derived from a phospholipid selected from the group consisting of phosphatidylserine (PS), phosphatidylcholine (PC), phosphatidylethanolamine (PE), phosphatidylinositol (PI), phosphatidylglycerol (PG) and phosphatidic acid (PA).

63. (new) The lipid compound according to claim 62, wherein p is 1 or 2.

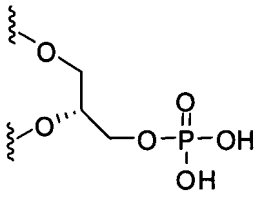
64. (new) The lipid compound according to claim 62, wherein p = 2 and the polar head group is selected from the group consisting of of formula (II) to (VI):



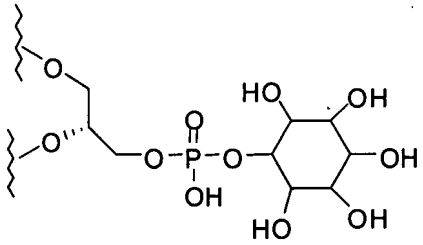
(II)



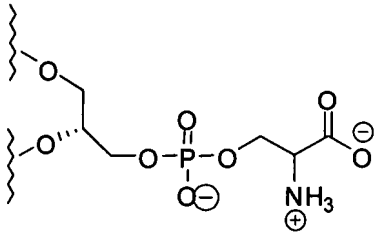
(III)



(IV)

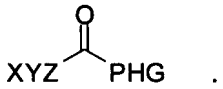


(V)



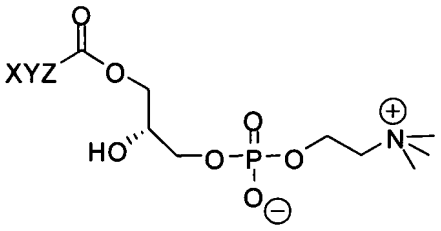
(VI).

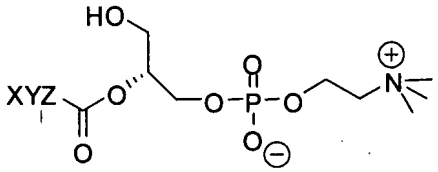
65. (new) The lipid compound according to claim 62, wherein p = 1, and represented by the following formula

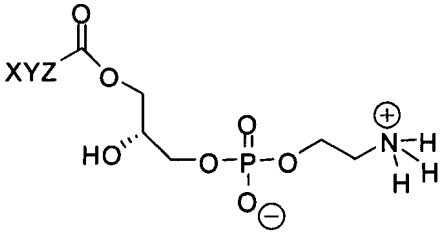


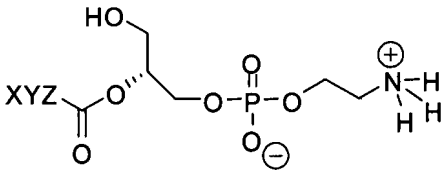
.

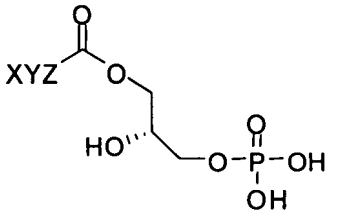
66. (new) The lipid compound according to claim 65, wherein the compound is selected from the group consisting of:

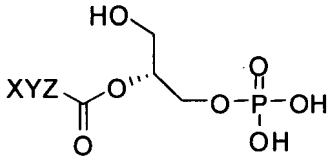


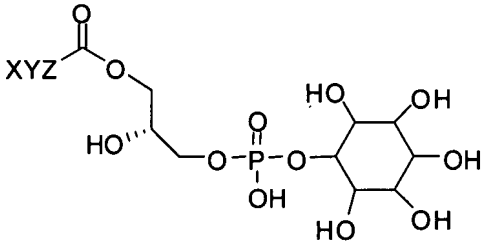


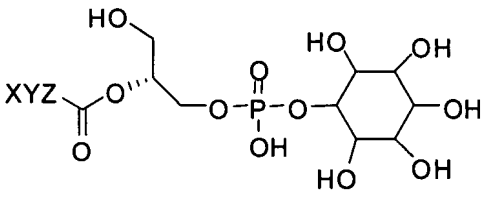


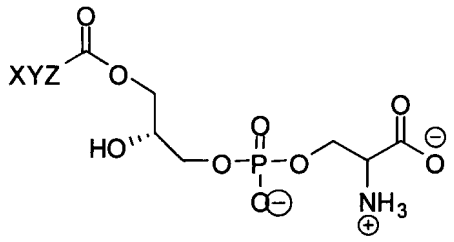


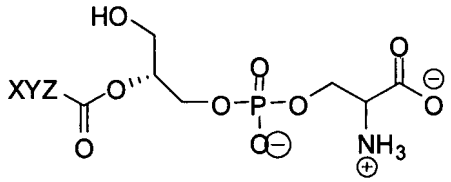






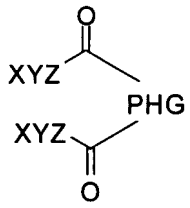




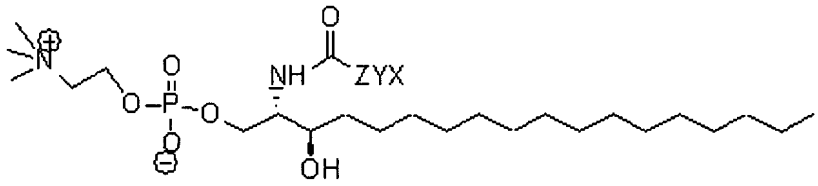


and

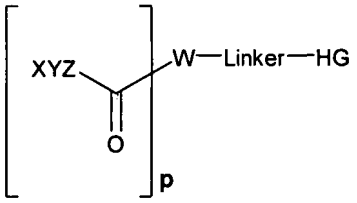
67. (new) The lipid compound according to claim 63, represented by the following formula:



68. (new) The lipid compound according to claim 61, wherein the polar head group is derived from a ceramide represented by a sphingomyelin derivative having the following formula:



69. (new) The lipid compound according to claim 61, wherein the polar head group is – W-Linker-HG represented by the following formula:



(II)

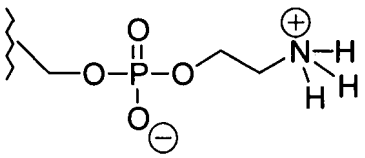
wherein

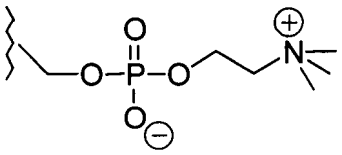
p is 1 or 2;

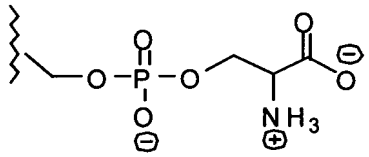
W is independently selected from the group consisting of S and NR^1, wherein R^1 is H or a hydrocarbyl group;

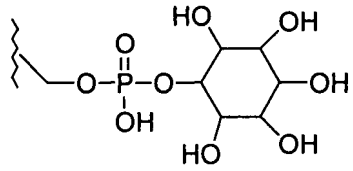
Linker is a hydrocarbon group, that may optionally comprise one or more substituents;

HG (head group) is selected from the group consisting of the following formulas:

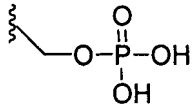








and



70.(new) The lipid compound according to claim 69, wherein the Linker is (-CHOH-CH_2-) or (CH_2OH-CH_2-).

71. (new) The lipid compound according to claim 62, wherein X is independently selected from C_6-C_{24} alkynyl containing one or more triple bonds, wherein at least one triple bond is distanced from the terminal end of the acetylenic hydrocarbyl group by 2, 3 or 7 carbons.

72. (new) The lipid compound according to claim 71, wherein one triple bond is distanced from the terminal end of the acetylenic hydrocarbyl group by 2 carbons.

73. (new) The lipid compound according to claim 62, wherein X is independently selected from C_{10}-C_{18} alkynyl containing one or more triple bonds, wherein at least one triple bond is distanced from the terminal end of the acetylenic hydrocarbyl group by 2 carbons.

74. (new) The lipid compound according to claim 62, wherein X is independently selected from C_6-C_{24} alkenyl containing one or more double bonds.

75. (new) The lipid compound according to claim 62, wherein X is independently selected from unsubstituted C_{10}-C_{18} alkenyl.

76. (new) The lipid compound according to claim 74, wherein at least one double bond is in *cis* configuration.

77. (new) The lipid compound according to claim 74, wherein double bond is in the $\Delta 9$ position.

78. (new) The lipid compound according to claim 62, wherein X is independently selected from C_6-C_{24} alkyl.

79. (new) The lipid compound according to claim 78, wherein X is independently selected from C_{10}-C_{18} alkyl.

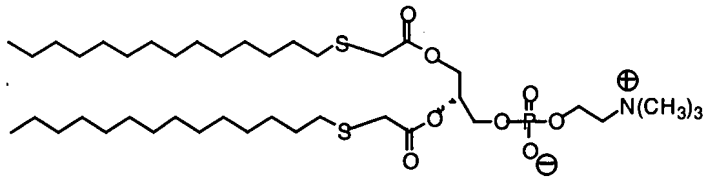
80. (new) The lipid compound according to claim 62, wherein at least one Y is Se, S or O.

81. (new) The lipid compound according to claim 80, wherein at least one Y is S.

82. (new) The lipid compound according to claim 62, wherein Z is $-(CH_2)_n-$ and n is 1 or 3.

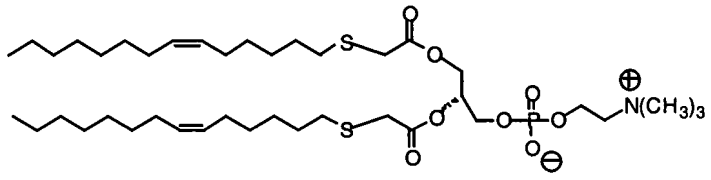
83. (new) The lipid compound according to claim 62, wherein said compound is selected from the group consisting of lipid compounds 18-23:

(18)



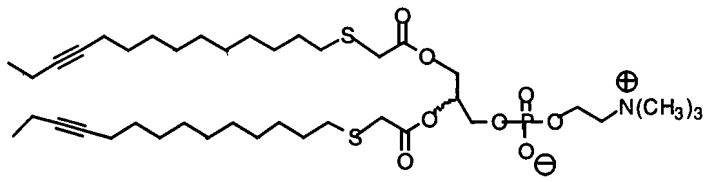
TTA-PC, **18**

(19)



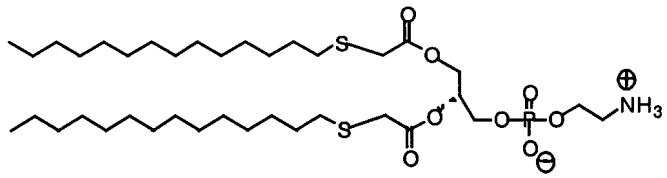
dTTA-PC, **19**

(20)



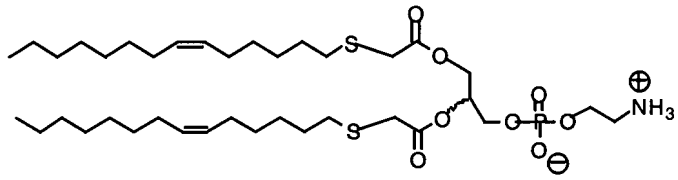
tTTA-PC, **20**

(21)



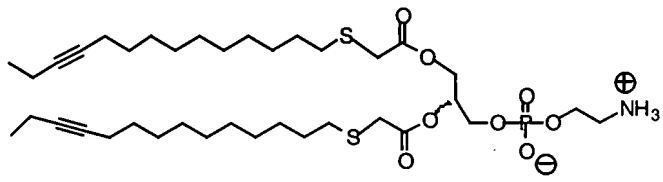
TTA-PE, **21**

(22)



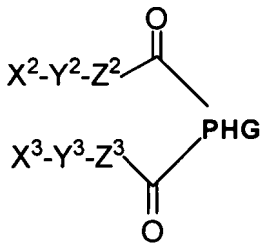
dTTA-PE, **22**

(23)



tTTA-PE, **23**

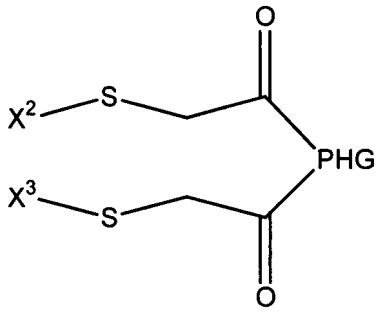
84. (new) The lipid compound according to claim 62, represented by the following formula:



wherein

X^2 and X^3 are independently selected from the group consisting of substituted or unsubstituted, C_{10}-C_{18} alkyl, C_{10}-C_{18} alkenyl and C_{10}-C_{18} alkynyl;
Y^2 and Y^3 are independently selected from S, Se, O and CH_2;
Z^2 and Z^3 are independently selected from a C_1-C_6 alkyl group;
with the proviso that at least one Y is not CH_2.

85. (new) The lipid compound according to claim 62, wherein the compound is of formula

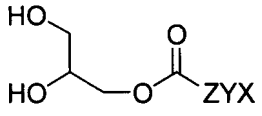


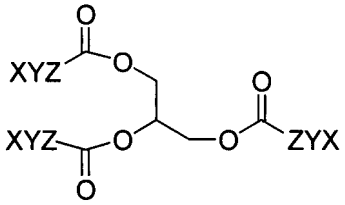
wherein X^2 and X^3 are independently selected from the group consisting of unsubstituted C_{10}-C_{18} alkyl, unsubstituted C_{10}-C_{18} alkenyl and unsubstituted C_{10}-C_{18} alkynyl.

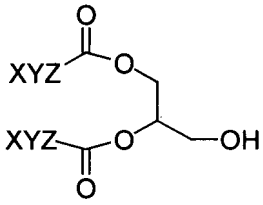
86. (new) The lipid compound according to claim 62, wherein the polar head group is derived from the head group of a phosphatidylcholine (PC) or a phosphatidylethanolamine (PE).

87. (new) The lipid compound according to claim 61, wherein the polar head group (PHG) is derived from a monoacylglycerol, a diacylglycerol or a triacylglycerol.

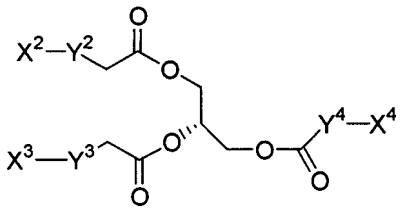
88. (new) The lipid compound according to claim 87, represented by one of the following formulas:







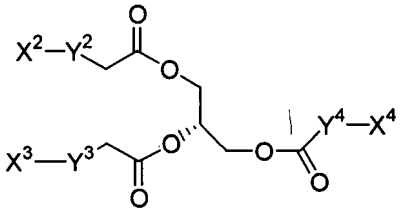
89. (new) The lipid compound according to claim 87, wherein the compound is of the formula



wherein

Y^2, Y^3 and Y^4 are independently S, Se, O and CH_2; and
X^2, X^3 and X^4 are independently selected from, substituted or unsubstituted, C_6-C_{24} alkyl, C_6-C_{24} alkenyl and C_6-C_{24} alkynyl,
with the proviso that at least one Y is not CH_2.

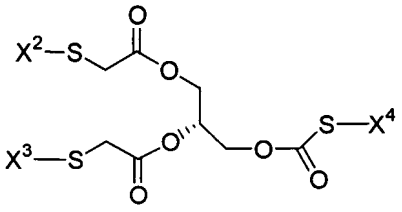
90. (new) The lipid compound according to claim 87, wherein the compound is of the formula



wherein

Y^2, Y^3 and Y^4 are independently S, O, Se or CH_2; and
X^2, X^3 and X^4 are independently selected from C_{10}-C_{18} alkyl, C_{10}-C_{18} alkenyl and C_{10}-C_{18} alkynyl,
with the proviso that at least one Y is not CH_2.

91. (new) The lipid compound according to claim 87, wherein the compound is of the formula:



wherein

X^2, X^3 and X^4 are independently selected from C_{10}-C_{18} alkyl, C_{10}-C_{18} alkenyl and C_{10}-C_{18} alkynyl.

92. (new) The lipid compound according to claim 87, wherein X^2, X^3 and X^4 are independently selected from C_6-C_{24} alkynyl containing one or more triple bonds, wherein at least one triple bond is distanced from the terminal end of the acetylenic hydrocarbyl group by 2, 3 or 7 carbons.

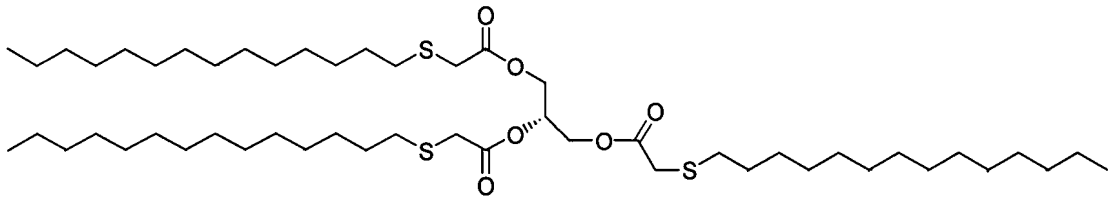
93. (new) The lipid compound according to claim 87, wherein X^2, X^3 and X^4 are independently selected from C_{10}-C_{18} alkynyl containing one or more triple bonds, wherein at least one triple bond is distanced from the terminal end of the acetylenic hydrocarbyl group by 2 carbons.

94. (new) The lipid compound according to claim 87, wherein X^2, X^3 and X^4 are independently selected from C_6-C_{24} alkenyl containing one or more double bonds.

95. (new) The lipid compound according to claim 87, wherein X^2, X^3 and X^4 are independently selected from unsubstituted C_{10}-C_{18} alkenyl, wherein at least one double bond is placed in position 3 counted from the omega end.

96. (new) The lipid compound according to claim 87, wherein at least one double bond is in *cis* configuration.

97. (new) The lipid compound according to claim 87, wherein the compound is represented by compound 24:



24

98. (new) A combination comprising a liposome and a compound according to claim 61.

99. (new) A method for the production of a lipid compound according to claim 61.

100. (new) A cosmetic formulation comprising a lipid compound according to claim 61.

101. (new) A pharmaceutical composition comprising a compound according to claim 61.

102. (new) A method of treating or preventing a condition selected from syndrome X, obesity or an overweight condition, hypertension, fatty liver, diabetes, hyperglycaemia, hyperinsulinemia, insulin resistance, hyperlipidemia, hypercholesterolemia, hypertriglyceridemia (HTG), and stenosis, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

103. (new) The method according to claim 102, for producing weight loss or a reduction of the fat mass, or for preventing weight gain in a human or non-human animal in need thereof, comprising administering thereto an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

104. (new) A method for the prevention or treatment of inflammatory disorders, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

105. (new) A method of lowering concentration of cholesterol and triglycerides in the blood of mammals and/or inhibiting the oxidative modification of low density lipoprotein, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

106. (new) A method for producing weight loss or a reduction of the fat mass in a human or non-human animal in need thereof, comprising administering thereto an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

107. (new) A method for the modification of the fat distribution and content of animals, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

108. (new) A method of inhibiting or preventing the growth of tumours, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

109. (new) A method for the treatment or inhibition of primary and secondary metastatic neoplasms, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

110. (new) A method for the prevention or treatment of proliferative skin disorders, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

111. (new) A method for the inhibition of proliferation or induction of differentiation of keratinocytes, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

112. (new) A method for the prevention or treatment of inflammatory disorders, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

113. (new) A method for enhancing the endogenous production of interleukin-10 (IL-10) in mammalian cells or tissues, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

114. (new) A method for suppression of the endogenous production of interleukin-2 (IL-2) in mammalian cells or tissues, comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

115. (new) A method for the inhibition of proliferation of stimulated peripheral mononuclear cells (PBMC), comprising administering to a subject in need thereof an effective amount of a compound according to claim 61 or a pharmaceutically acceptable salt thereof.

116. (new) The pharmaceutical composition according to claim 101, admixed with a pharmaceutically acceptable carrier, diluent, excipient or adjuvant.

117. (new) A topically administrable pharmaceutical composition according to claim 116.

118. (new) A parenterally administrable pharmaceutical composition according to claim 116.

119. (new) An intravenously administrable pharmaceutical composition according to claim 116.